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Cooperative ECONOMIC INSECT REPORT

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PLANT PEST CONTROL DIVISION
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PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Cold weather reducing insect activity rather generally.

BARK BEETLES continue damaging to pines in areas of California. (p. 44).

DETECTION

New county records reported were NORTHERN FOWL MITE (Ornithonyssus sylviarum) in Columbia County, Arkansas (p. 46), and a GREEN LACEWING (Abachrysa eureka) in Pinellas County, Florida (p. 47).

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 45). Infestations in lower Rio Grande Valley of Texas reduced considerably by recent cold weather.

Corn Insect Infestations and Losses in Indiana in 1962. (p. 48).

Interceptions of Special Interest at U. S. Ports of Entry. (p. 55).

List of State Survey Coordinators. (p. 56).

Insects Not Known to Occur in the United States (small spruce sawfly, Pristiphora abietina (Christ)). (p. 59).

Reports in this issue are for week ending January 18, unless otherwise indicated.

WEATHER BUREAU 30-DAY OUTLOOK

MID-JANUARY TO MID-FEBRUARY 1963

The Weather Bureau's 30-day outlook for mid-January to mid-February calls for temperatures to average below seasonal normals over the northern half of the Nation. In the remainder of the country, near normal temperatures with large fluctuations are anticipated, except for above normal in the Far Southwest. Precipitation is expected to exceed normal over the western third of the Nation, thereby providing moisture for many areas which have been unusually dry. Above-normal precipitation is also anticipated east of the Appalachians, while subnormal amounts are indicated for the Great Lakes region and Texas. In unspecified areas, near normal amounts are in prospect. Owing to the anticipated cold weather and storm movements, most of the precipitation over the northern two-thirds of the country is expected to be in the form of snow rather than rain.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price \$4.80 a year, \$2.40 a half year.

(Weather continued on following page)

WEATHER OF THE WEEK ENDING JANUARY 21

Temperatures over 32° were a rarity on the opening 2 days of the week, but moderated until a fresh surge of arctic air pushed its way southward on the 18th and 19th. The severe cold snap of the previous period had overspread the continent by the 14th, reducing temperatures to freezing levels even in the normally warm Imperial Valley of California. The maximum for that day at International Falls, Minnesota, was a nippy -18°. On the 15th in Wisconsin, Hatfield Dam near Black River Falls cooled to -50° and Milwaukee had a -24° reading for their coldest reading in 12 years. Another polar outbreak reached into the North Central States on the 18th to reduce temperatures to unseasonably low levels. As this cold air spread laterally over the Nation, it also moved southward, taking the mercury down to -15° on the 19th at Salt Lake City, Utah, and to -13° at Dalhart, Texas. Weekly averages were, almost without exception, below normal. Only the interior Pacific Northwest, the Florida Peninsula, and the extreme coastal areas of the East had averages near or above normal. Madison, Wisconsin, had the largest reported deficiency with 25°. The recurring plunges of cold air have been responsible for freezing the Missouri River at several places in Missouri. Crop damage of a severe nature was reported from California, Arizona and Texas. The storm of the 18th-21st produced blizzard-like conditions, giving a more permanent snow cover to the Great Plains and Rocky Mountains. However, Nevada, California and much of Idaho have not received their share of precipitation and the water outlook for the crop season to come remains dangerously low.

Precipitation was generally light to moderate everywhere except in the Gulf and East Coast States where amounts ranged from mostly moderate in the Northeast to excessive from southeast Texas into central Georgia. High winds accompanied the snowfall which ranged to over 3 inches in most areas throughout the Great Plains, the upper Mississippi Valley, and the western Great Lakes. Snow fell almost daily in the northern Rockies. A system along the Gulf began spreading rainfall in heavy amounts northward on the 17th, and by the 19th had combined its effects with the frontal system surging southward to spread precipitation along the Rockies and eastward to the Atlantic. Thunderstorms were common in the central Gulf States and Georgia and several tornadoes caused injuries and property damage in the latter State. Port Arthur, Texas, reported the largest total, with 5.48 inches. Much of the East coast precipitation fell as rain, and very little snow was added to the existing cover except in the more northern and interior areas. Snow cover at the end of the period varied from 1 inch in central Oklahoma to 10 inches in southeast South Dakota. Heavy falls west of the Continental Divide in Montana, and moderate falls to the east increased this cover to a more substantial level. The snow depth in the Cascade Range and the Rockies south of Wyoming was increased some by a generally light to moderate fall. Depths range to 2 feet in northern and central Maine. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GREENBUG (Toxoptera graminum) - NEW MEXICO - Ranged 10-16 per linear foot in fields of small grain near Artesia, Eddy County. (N. M. Coop. Rpt.). TEXAS - During period January 8-9, survey made in following panhandle counties: Randall, Potter, Deaf Smith, Castro, Parmer, Oldham, Hartley, Dallam, Sherman and Moore. Greenbug present in all counties. Populations generally ranged 0-20 per linear foot; however, in Deaf Smith, Castro and Parmer Counties, fields noted with populations up to 200 per linear foot. Effect of recent cold weather on these populations not known. Predators not found during survey. (Daniels). Damage to small grains in some northwest areas of State believed to be caused primarily by weather factors. (Texas Coop. Rpt.). OKLAHOMA - Apparently severe cold conditions considerably reduced populations present previous week; high counts of up to 40 per linear foot in sandy areas of Garfield County now virtually nonexistent. Counts ranged 0.5-2 per linear foot of row in Choctaw, Wagoner and Muskogee Counties. (Okla. Coop. Sur.). GEORGIA - Light on small grain in several northwest counties. (Johnson).

CORN LEAF APHID (Rhopalosiphum maidis) - NEW MEXICO - Ranged 20-30 per linear foot in fields of barley in northern Eddy County. (N. M. Coop. Rpt.). OKLAHOMA - Light populations observed in oats in Choctaw County, southeast. (Okla. Coop. Sur.). FLORIDA - Light on 40 acres of sweet corn at Lake Harbor, Palm Beach County (Jan. 3). (Fla. Coop. Sur.).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - OKLAHOMA - Light counts of 0-4 per linear foot of row noted in Caddo County, west central. (Okla. Coop. Sur.).

ENGLISH GRAIN APHID (Macrosiphum granarium) - OKLAHOMA - Only light counts of 2-9 per linear foot of row observed in Caddo County, west central. (Okla. Coop. Sur.).

FALL ARMYWORM (Laphygma frugiperda) - FLORIDA - Light on 40 acres of sweet corn at Belle Glade, Palm Beach County (Jan. 14). (Fla. Coop. Sur.).

A BILLBUG (Sphenophorus sp.) - ARIZONA - Adults very active in some lawns in Phoenix area, Maricopa County. (Ariz. Coop. Sur.).

SNAILS - ARIZONA - Unspecified species damaging lawns in Phoenix and Mesa areas of Maricopa County. (Ariz. Coop. Sur.).

PEA APHID (Macrosiphum pisi) - OKLAHOMA - Light counts observed; 0-3 per square foot of crown area in Choctaw County, 3 per square foot in Muskogee County, and less than 1 per square foot in Wagoner County. Populations reduced by severe cold in Muskogee County. (Okla. Coop. Sur.). NEW MEXICO - Very light in Bernalillo County alfalfa fields; averaged 2-3 per 25 sweeps. Aphids very sluggish. (N. M. Coop. Rpt.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Light populations, 0-2 per square foot of crown area, noted in Choctaw County, southeast. Severe cold of previous week reported to have killed some young stands of alfalfa. (Okla. Coop. Sur.).

ALFALFA WEEVIL (Hypera postica) - GEORGIA - Survey in several counties revealed eggs in stems; however, no larvae or adults found. (Johnson).

FRUIT INSECTS

MEDITERRANEAN FRUIT FLY (Ceratitis capitata) - FLORIDA - Since collection of adult January 11 at Lauderdale-by-the-Sea, Broward County, 6 additional collections, consisting of larvae and adults, have been made in same area. (Fla. Coop. Sur.).

A LEAF ROLLER MOTH (Ptycholoma peritana) - CALIFORNIA - Heavy on lemon and lime fruit in San Anselmo, Marin County. (Cal. Coop. Rpt.).

AVOCADO WHITEFLY (Trialeurodes floridensis) - FLORIDA - Moderate on 500 avocado trees at Homestead, Dade County (Jan. 11). (Fla. Coop. Sur.).

NAVEL ORANGEWORM (Paramyelois transitella) - CALIFORNIA - Light in pecan nuts in Bard, Imperial County. (Cal. Coop. Rpt.).

CODLING MOTH (Carpocapsa pomonella) - NEW MEXICO - Cocoons abundant under bark of apple trees in several Bernalillo County orchards checked; ranged 5-20 per tree. (N. M. Coop. Rpt.).

SHOT-HOLE BORER (Scolytus rugulosus) - UTAH - Infesting peach and apricot orchards near pulled-out orchard north of Willard, Box Elder County. (Knowlton).

PACIFIC FLATHEADED BORER (Chrysobothris mali) - CALIFORNIA - Larvae light in pear trees in Patterson, Stanislaus County. (Cal. Coop. Rpt.).

A SPIDER MITE (Tetranychus mcdanieli) - NEW MEXICO - Abundant under bark and on dried fruit in apple orchards where late fall infestations occurred in Bernalillo County. (N. M. Coop. Rpt.).

TRUCK CROP INSECTS

GREEN PEACH APHID (Myzus persicae) - CALIFORNIA - Nymphs and adults medium on leaves of turnip crops in Thermal, Riverside County. (Cal. Coop. Rpt.).

A LEAF ROLLER MOTH (Ptycholoma peritana) - CALIFORNIA - Medium in strawberry crowns in Oxnard, Ventura County. (Cal. Coop. Rpt.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

BARK BEETLES - CALIFORNIA - Dendroctonus brevicomis causing considerable fading of ponderosa pines in 2-acre area of high value recreational State Park stand; some 35 trees killed in Castle Crags area. (W. C. Kaiser, State Parks). D. brevicomis causing first loss of Coulter pines in several years in Corte Madera area, Cleveland National Forest; 600-acre stand of Coulter pines involved. (Pierce, Bryant, USFS). Damage by Ips sp. appearing in white fir over entire Johnsville area of Plumas-Eureka State Park; trees with very heavy cone crop showing signs of fading. (M. J. Mason, State Park). Dendroctonus valens and Ips sp. causing heavy killing of ponderosa pines; over 250 trees killed in 40-acre section of Tunnel Mills area, Tahoe National Park. Drought and thinning probably responsible for weakening of trees originally. (M. Williamson, USFS). TEXAS - Dendroctonus frontalis population in southeast part of State continued to decline during November and no activity was observed during December. Scattered, single trees infested by Ips spp. observed through November in same area. Control operations against Dendroctonus spp., principally D. terebrans, began during November in several southeastern counties on trees damaged by construction, logging and lightning. (Texas For. Pest Comm., Nov. and Dec. Rpts.).

SAN JOSE SCALE (Aspidiotus perniciosus) - ARIZONA - Found infesting several deciduous trees in Salt River Valley. (Ariz. Coop. Sur.).

BLACK VINE WEEVIL (Brachyrhinus sulcatus) - CALIFORNIA - Larvae medium in soil about nursery stock fuchsia plants in Colma, San Mateo County. (Cal. Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - OKLAHOMA - Infesting snapdragons in greenhouse at Ardmore, Carter County, south central. (Okla. Coop. Sur.).

SPIREA APHID (Aphis spiraeicola) - CALIFORNIA - All stages heavy on Viburnum sp. in Stockton, San Joaquin County. (Cal. Coop. Rpt.).

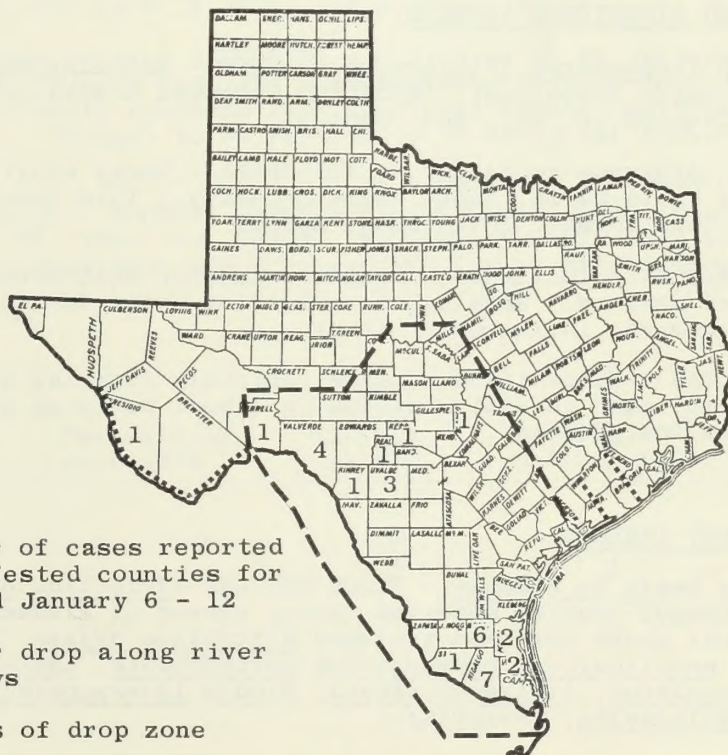
Coccids in Florida - Diaspis boisduvalli moderately infested 1,000 orchids at De Leon Springs, Volusia County (Jan. 3). Cerococcus sp. was moderate on hibiscus at 2 locations in Miami, Dade County (Jan. 9, 10). Diaspis echinococcus was severe on cactus at Sebring, Highlands County (Jan. 8). Florinia theae was moderate on 100 camellias at De Leon Springs (Jan. 8). Icerya purchasi severely infested 8 Casuarina spp. and Ischnaspis longirostris was moderate on one Phoenix reclinata and 10 Asparagus sprengeri in Miami (Jan. 7). (Fla. Coop. Sur.).

INSECTS AFFECTING MAN AND ANIMALS

STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

Severe cold weather spread throughout Texas during the period January 6-12, lowering temperatures in all portions of the State and in northern Mexico. Below freezing temperatures were reported several days in subtropical lower Rio Grande Valley. This unexpected cold weather should greatly assist eradication efforts. The 31 cases shown on the accompanying map were specimens obtained from wounds upon which flies had oviposited prior to the cold spell. No specimens have been received from infestations resulting from eggs oviposited since beginning of cold weather. Fly release was very limited during the period because of effects of adverse weather upon laboratory-reared sterile flies. Production continues at standard rate and pupae are being chilled immediately after sterilization to retard emergence.

A total of 72,808,300 sterile flies was released during the period January 6-12, and a total of 31 screw-worm cases was reported during the same period. (Anim. Dis. Erad. Div.).



Figures - Number of cases reported in infested counties for period January 6 - 12

..... - Linear drop along river valleys

----- - Limits of drop zone

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Counts of 7 per animal observed on 100 steers in Woodward County, and 15-20 per head reported from McCurtain County; activity continues across State. (Okla. Coop. Sur.). ARKANSAS - In Washington County (northwest), one grub taken from 135 treated cows and 71 taken from 9 untreated cows. (Ark. Ins. Sur.). GEORGIA - Total of 30 grubs taken from 8 infested animals of 68 beef animals examined in Putnam County. (Roberts).

BLACK BLOW FLY (Phormia regina) - NORTH CAROLINA - Larvae collected from vagina of sow. Det. by W. G. Bruce. (Mount).

HOG LOUSE (Haematopinus suis) - OKLAHOMA - Countywide infestations reported from Bryan County. (Okla. Coop. Sur.).

CATTLE LICE - OKLAHOMA - Linognathus vituli averaged 5 per hair part on 100 steers checked in Woodward County, with activity reported across State. (Okla. Coop. Sur.). UTAH - Unspecified species infesting several cattle herds in Uinta Basin in northeastern area of State. (Knowlton).

A SPRINGTAIL - NORTH CAROLINA - Undetermined species sufficiently numerous in poultry-watering troughs at Lenoir, Caldwell County, to be bothersome. (Jones).

NORTHERN FOWL MITE (Ornithonyssus sylviarum) - ARKANSAS - Collected for the first time in Columbia County (northwest), for a new county record. (Ark. Ins. Sur.).

A BROWN SPIDER (Loxosceles reclusa) - OKLAHOMA - Continues active in basements of buildings in Stillwater area, Payne County. (Okla. Coop. Sur.).

HOUSEHOLD AND STRUCTURAL INSECTS

BOXELDER BUG (Leptocoris trivittatus) - UTAH - Entering some homes in Holladay, Salt Lake County. (Knowlton). MARYLAND - Caused a nuisance in home in Kensington, Montgomery County. (U. Md., Ent. Dept.).

A GRASS BUG (Arhyssus scutatus) - CALIFORNIA - Heavy adult numbers invading house and attic in Santa Maria, Santa Barbara County. This species has remained active much longer than normal. (Cal. Coop. Rpt.).

EARWIGS - ARIZONA - Continued a nuisance in many Salt River Valley homes during first part of January. Running of irrigation water for cold protection evidently drove pest indoors. (Ariz. Coop. Sur.).

TERMITES - UTAH - Unspecified species seriously damaging dwelling at Spring City, Sanpete County; also infesting carton in school building at Providence, Cache County. (Knowlton, Hanson).

STORED-PRODUCT INSECTS

Stored-grain Pests in Alabama - FLOUR BEETLES (Tribolium confusum and T. castaneum) most common species observed during survey of Alabama State Docks at Mobile. Other pests observed included Sitophilus oryzae, S. granarius, Tenebroides mauritanicus, Oryzaephilus surinamensis, Lasioderma serricorne, Dermestes maculatus, Attagenus piceus, Plodia interpunctella, Lepisma saccharina and Tinea pellionella. (Seibels).

INDIAN-MEAL MOTH (Plodia interpunctella) - OKLAHOMA - Adults observed emerging in homes in Stillwater area, Payne County. (Okla. Coop. Sur.).

A PHYCITID MOTH (Ephestia sp.) - NORTH CAROLINA - Larvae serious in milo seed at Lumberton, Robeson County. Det. by D. A. Mount. (Johnson).

KHAPRA BEETLE (Trogoderma granarium) - OKLAHOMA - Inspections in Beaver and Ellis Counties negative. (Okla. Coop. Sur.).

LESSER MEALWORM (Alphitobius diaperinus) - NORTH CAROLINA - Adults collected from under burlap bags in corner of storage area where shelled corn had been stored. Det. by D. A. Mount. (Johnson).

MISCELLANEOUS INSECTS

A ROUNDHEADED WOOD BORER (Neobellamira delicata) - CALIFORNIA - Medium larval population occurring in dead walnut wood in La Grange, Stanislaus County. (Cal. Coop. Rpt.).

A FALSE POWDER-POST BEETLE (Polycaon stouti) - CALIFORNIA - Larvae, possibly this species, present in manzanita wood used in ornamental planter. Several instances of infestations in planters reported during past few months; cause considerable concern to housewives when adults emerge from old wood. (Cal. Coop. Rpt.).

A DRYWOOD TERMITE (Kaloterms approximatus) - FLORIDA - Extensive colony in heartwood of laurel oak (Quercus laurifolia) at Gainesville, Alachua County (Jan. 12). Access gained through dead branch stub. (Hetrick).

A DAMPWOOD TERMITE (Prorhinotermes simplex) - FLORIDA - Collected at 2 locations in Ft. Lauderdale, Broward County (Jan. 14), by F. P. Clements. (Hetrick).

A SUBTERRANEAN TERMITE (Reticulitermes hageni) - FLORIDA - Collected at Tampa, Hillsborough County (Jan. 4), by P. E. Buck. (Fla. Coop. Sur.).

A GREEN LACEWING (Abachrysa eureka) - FLORIDA - Collected at St. Petersburg, Pinellas County, by R. H. Forsyth (Aug. 16, 1962); this is first record for county or vicinity. Previously recorded from Highlands County and from north-western portion of State. Thought to be restricted to scrub oak areas. (Fla. Coop. Sur.).

A FLOWER FLY (Baccha notata) - FLORIDA - Collected at Punta Gorda, Charlotte County, by J. W. Shirah, Jr. (Dec. 14, 1962). This species has very rarely been collected north of the Florida Keys and southern portion of Dade County. (Fla. Coop. Sur.).

LIGHT TRAP COLLECTIONS

	<u>Pseudaletia</u> <u>unipuncta</u>	<u>Agrotis</u> <u>ipsilon</u>	<u>Prodenia</u> <u>ornithogalli</u>	<u>Feltia</u> <u>subterranea</u>
SOUTH CAROLINA				
Charleston 1/7-13	7	3		12
Charleston 1/14-21	11	9	5	7

Corn Insect Infestations and Losses in Indiana in 1962

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Corn-growing conditions were slightly better in Indiana in 1962 than in 1961, with the southern part of the State showing evidence of the best yields. At the time of the fall survey, corn was generally well-matured to dry. The entire southern fourth of the State had corn with dry leaves and succulent stalks, with the drier corn in the northern part of the State. Stalk rot infection was slightly greater in 1962. The greatest increase was in the northern half of the State where it ranged from scarce to moderate, while in the southern part the disease ranged from none to scarce. Bird damage averaged 0.47 percent, more than double that found in 1961. The greatest loss from this cause occurred in the extreme southern part of the State. Table 1 presents these data by areas.

European Corn Borer

The State average for infestation and percent loss by the European corn borer (*Ostrinia nubilalis*) was almost identical with that of 1961. However, there were some interesting localized shifts of populations of this insect within the State. The north-northwest region had the highest residual population and an average loss of 2.6 percent. The greatest reduction occurred in the south-southeast area, which had the highest infestation in 1961. The infestation in this area dropped from 36.4 percent in 1961 to 8.4 percent in 1962. The loss was reduced from 2.2 to 0.2 percent. In general, the western third of the State showed an increase in population, which resulted in the highest infestation and loss in 1962. The central and eastern thirds had lower populations, with the eastern part having the lowest. (Table 2). Although the average loss was the same as in 1961 (0.8 percent), the total bushel loss will probably be greater, since the density of borer populations shifted to areas of greater corn production.

The area of greatest concentration of European corn borer occurred in Jasper and Pulaski Counties. The field showing the highest percent infestation (88 percent) and the greatest borer population (350 per 100 stalks) was located in Jasper County. A light trap operated in this county recorded the highest capture of European corn borer moths in May and again in late August and early September. An investigation of the area by Dr. George E. Gould indicated that the field of potatoes in which the trap was located was 100 percent infested with European corn borer. This is the first record in Indiana of high infestations of European corn borer in a field crop other than corn, although peppers and gladiola have been occasionally heavily infested in local areas. Since the heaviest infestations in corn also occurred in this area, the relationship of these two crops to European corn borer abundance may be of importance.

Corn Earworm

Although corn earworm (*Heliothis zea*) has been found to overwinter in extreme southern Indiana occasionally, the bulk of the infestation in late summer originates from moths flying into the State from the south and southwest. A complicating factor in the fluctuating of populations is the amount of infestation of tomatoes by this insect, although the possibility of physiologic races of this

insect on these two crops may exist. Generally, the southern half of the State had the highest infestation and losses, although in 1962 there was an increase in infestation in the northern part of the State. Losses in yield in 1962 were 0.7 percent, or more than double that in 1961. Table 3 gives these data.

Corn Leaf Aphid

Corn leaf aphid (Rhopalosiphum maidis) is usually present every year in Indiana corn fields in the late summer although it is not known to overwinter here. The severe outbreak in 1959 pointed out the damage that this insect can cause, even in light infestations. It has been the most destructive corn insect in Indiana in recent years. When very abundant on a corn plant it may result in a completely barren plant or an ear with no grain. Moderate infestations can reduce ear weight as much as 10 percent. In most years, infestations severe enough to result in barren plants occur on only an occasional plant in infested fields.

The overall corn leaf aphid infestation in Indiana this year was slightly higher than in 1961. There was a decided increase in the northern half of the State, with decreases in the south-southcentral and south-southeast areas. The south-southwest area showed a marked increase in infestation, as did the south central. As in the case of the European corn borer, infestations were heaviest in the western third of the State, somewhat lower in the central third, with the lowest infestation in the eastern third. Yield losses may be considerably higher in 1962 due to increases of this insect in the areas of higher corn production. (Table 4).

Angoumois Grain Moth

This is the second year that field infestations by the Angoumois grain moth (Sitotroga cerealella) have been included in the corn insect survey. The infestation was double that of 1961, with field infestations occurring as far north as Blackford and Adams Counties in the northeast area. The greatest concentration of infestation was found in the south-southwest and south-southcentral areas. Infestations occurred in 22 percent of the counties in the State and in 16 percent of the fields surveyed, with 53 and 67 percent of the fields in the south-southwest and south-southcentral areas infested, respectively. Ear infestations averaged 32 and 33 percent in these areas. The total loss based on numbers of infested kernels was low, 0.09 percent for the State. However, this estimate is probably much lower than actually occurred since the sample of ears was collected in mid-September, three weeks or more before harvest. Infestation by this insect is given in table 5.

Summary of Losses

In general, the percent loss in corn yield in 1962 was 5.6 compared with 4.3 percent in 1961. Of this loss, the greatest portion was caused by infestations of the corn leaf aphid. All of the insects surveyed, with the exception of the European corn borer, showed increases in occurrence with resulting increase in loss. Bushel loss will be considerably greater in 1962 than in 1961, since all the insects covered by the survey showed increases in the areas of greatest corn production.

Table 1. Crop condition and bird damage. Fall corn insect survey, Indiana, 1962.

Area	County	Fields	Yield estimate	Maturity a/	Stalk rot	Bird damage	
						1961	1962
	No.	No.				Pct.	Pct.
NNW	7	16	Good	Dry	Moderate	.2	.02
NNC	5	11	Good	Dry	Scarce	.5	.04
NNE	6	10	Good	Dry	Scarce	.6	.60
NW	6	15	Good	Dry	Scarce	0.	.29
NC	8	15	Good	Green-dry	Scarce	0.	.01
NE	10	19	Good	Green-dry	Scarce	0.	0.
SW	8	13	Good	Dry	None	.5	0.
SC	7	11	Very good	Green-dry	None	.2	1.00
SE	9	16	Good	Dry	None	.4	.20
SSW	10	17	Very good	Green-dry	Scarce	.1	1.12
SSC	7	10	Good	Green-dry	Scarce	.1	.70
SSE	9	10	Very good	Green-dry	Scarce	0.	1.70
NN	18	37	Good	Dry	Scarce	.4	.22
N	24	49	Good	Dry	Scarce	0.	.10
S	24	40	Good	Dry	None	.4	.40
SS	26	37	Very good	Green-dry	Scarce	.1	1.17
West	31	61	Good	Dry	Scarce	.2	.36
Central	27	47	Good	Green-dry	Scarce	.2	.44
East	34	55	Good	Dry	Scarce	.2	.62
State	92	163	Good	Dry	Scarce	.2	.47

a/ Green-dry indicates dry leaves with stalks still green and succulent.

Table 2. European corn borer abundance and damage. Fall corn insect survey, Indiana, 1962.

Area	Counties	Fields	Plants infested	Borers per infested plant	Borers per 100 plants		Loss	
					1961	1962	1961	1962
	No.	No.	Pct.	No.	No.	No.	No.	No.
NNW	7	16	52.7	1.2	59.8	89.3	1.8	2.6
NNC	5	11	27.6	.8	29.4	27.6	.9	.7
NNE	6	10	13.2	.8	4.6	13.6	.1	.4
NW	6	15	27.5	.9	10.7	31.7	.3	1.0
NC	8	15	16.3	.8	9.9	16.0	.3	.5
NE	10	19	20.0	.9	9.9	21.4	.3	.6
SW	8	13	29.2	.7	6.2	31.7	.2	1.0
SC	7	11	21.1	.5	19.6	24.4	.6	.7
SE	9	16	18.1	.5	7.6	27.2	.2	.8
SSW	10	17	29.4	.7	52.5	29.8	1.6	.9
SSC	7	10	33.2	.8	41.2	30.0	1.2	.9
SSE	9	10	8.4	.6	72.7	6.6	2.2	.2
NN	18	37	31.2	.9	31.3	42.8	.9	1.3
N	24	49	21.3	.9	10.2	23.0	.3	.7
S	24	40	22.8	.6	11.1	27.8	.3	.8
SS	26	37	23.7	.7	55.3	22.1	1.7	.7
West	31	61	34.7	.9	32.3	45.1	1.0	1.4
Central	27	47	24.6	.7	25.0	24.5	.8	.7
East	34	55	14.9	.7	23.6	17.2	.7	.5
State	92	163	24.7	.8	27.0	28.9	.8	.8

Table 3. Corn earworm infestation and damage. Fall corn insect survey, Indiana, 1962.

Area	Counties	Fields	Plants infested	Damaged kernels per infested ear	Kernels per ear	Loss	
						1961	1962
	No.	No.	Pct.	No.	No.	Pct.	Pct.
NNW	7	16	14.4	14.5	724	.1	.3
NNC	5	11	12.0	9.0	826	.1	.1
NNE	6	10	8.8	7.0	634	0.	.2
NW	6	15	11.7	13.5	801	.1	.2
NC	8	15	7.7	8.7	762	.0	.2
NE	10	19	6.7	6.3	747	.0	.1
SW	8	13	23.7	16.6	791	.1	1.2
SC	7	11	31.6	16.8	789	.1	1.3
SE	9	16	3.5	2.8	892	.1	.1
SSW	10	17	30.4	19.2	852	1.0	2.0
SSC	7	10	29.6	19.2	799	1.2	1.7
SSE	9	10	31.2	16.8	783	1.2	.8
NN	18	37	11.7	10.2	728	.1	.2
N	24	49	8.7	9.5	770	.0	.2
S	24	40	19.6	12.1	824	.1	.9
SS	26	37	30.4	18.4	811	1.1	1.5
West	31	61	20.0	16.0	792	.3	.9
Central	27	47	20.2	13.4	794	.3	.8
East	34	55	12.6	8.2	764	.3	.3
State	92	163	17.6	12.6	783	.3	.7

Table 4. Corn leaf aphid infestation and estimates of loss. Fall corn insect survey, Indiana, 1962.

Area	Counties	Fields	Plants infested	Increase in		Loss	
				Nubbins	Barren	1961	1962
	<u>No.</u>	<u>No.</u>	<u>Pct.</u>	<u>No.</u>	<u>No.</u>	<u>Pct.</u>	<u>Pct.</u>
NNW	7	16	25.1	1.0	.4	.0	4.1
NNC	5	11	24.4	1.9	.2	0.	3.9
NNE	6	10	18.4	.8	.3	.9	2.3
NW	6	15	13.6	.6	.1	2.0	1.0
NC	8	15	10.9	.6	.1	0.	.3
NE	10	19	11.8	.4	0.	0.	.5
SW	8	13	41.8	.8	0.	8.8	8.7
SC	7	11	38.7	.7	0.	3.4	7.9
SE	9	16	27.8	.5	.1	8.4	4.9
SSW	10	17	42.1	1.9	.0	3.7	8.8
SSC	7	10	8.0	.6	.2	4.8	.0
SSE	9	10	13.2	.9	0.	4.0	.9
NN	18	37	22.6	1.3	.3	.3	3.8
N	24	49	12.1	.5	.1	.7	.6
S	24	40	36.2	.7	.0	7.0	7.2
SS	26	37	21.1	.9	.1	4.2	3.2
West	31	61	30.6	1.1	.2	3.6	5.6
Central	27	47	20.6	1.0	.1	2.2	3.0
East	34	55	17.8	.4	.1	3.3	2.2
State	92	163	23.0	.8	.1	3.0	3.6

Table 5. Angoumois grain moth infestation and damage. Fall corn insect survey, Indiana, 1962.

Area	Counties	Fields	Infestation							
			Counties		Fields		Ears		Loss	
			1961	1962	1961	1962	1961	1962	1961	1962
	No.	No.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
NNW	7	16	0	0	0	0	0	0	0.	0.
NNC	5	11	0	0	0	0	0	0	0.	0.
NNE	6	10	0	0	0	0	0	0	0.	0.
NW	6	15	0	0	0	0	0	0	0.	0.
NC	8	15	0	0	0	0	0	0	0.	0.
NE	10	19	0	20	0	10	0	2	0.	.02
SW	8	13	38	0	23	0	6	0	.03	0.
SC	7	11	57	29	36	18	7	4	.04	.01
SE	9	16	0	22	0	13	0	2	0.	.00
SSW	10	17	50	80	29	53	13	32	.38	.21
SSC	7	10	43	71	30	67	8	33	.06	.38
SSE	9	10	22	44	20	37	10	16	.03	.24
NN	18	37	0	0	0	0	0	0	0.	0.
N	24	49	0	8	0	4	0	1	0.	.01
S	24	40	33	17	20	10	4	2	.02	.00
SS	26	37	38	65	26	51	10	28	.16	.36
West	31	61	22	20	13	13	5	8	.10	.05
Central	27	47	25	25	16	21	4	9	.02	.16
East	34	55	5	22	5	15	2	5	.01	.06
State	92	163	18	22	12	16	4	7	.04	.09

Loss estimates are based on size of ears as shown in Table 3.

INTERCEPTIONS OF SPECIAL INTEREST AT U. S. PORTS OF ENTRY

Some important interceptions that were reported October 31, 1962, by the Plant Quarantine Division, ARS, USDA, follow. These reports are based on the identification received from Federal taxonomists at the U. S. National Museum during the month, but do include any of special interest from recent months that were not previously reported.

LEEK MOTH (Acrolepia assectella (Zell.)) (a pest which is sometimes very injurious to Allium in Europe) twice in baggage, once at New York, New York, and once at San Pedro, California.

CITRUS BLACKFLY (Aleurocanthus woglumi Ashby), or probably that species, 4 times in baggage and 5 times in cargo from Mexico; Brownsville, Texas, 7 times; Laredo, Texas, one time; and San Ysidro, California, one time.

MEXICAN FRUIT FLY (Anastrepha ludens (Lw.)), or probably that species, 12 times in baggage from Mexico; Brownsville, Texas, 6 times; Laredo, Texas, 2 times; Roma, Texas, one time; Eagle Pass, Texas, one time; Nogales, Arizona, one time; and San Diego, California, one time.

MEDITERRANEAN FRUIT FLY (Ceratitis capitata (Wied.)), or probably that species, 13 times in baggage, once in cargo and 3 times in stores; Charleston, South Carolina, one time; Honolulu, Hawaii, 2 times; Norfolk, Virginia, one time; Cleveland, Ohio, 3 times; Boston, Massachusetts, 2 times; Miami, Florida, 2 times; New York, New York, 4 times; and Chicago, Illinois, 2 times.

A WEEVIL (Cleonus sp.), a genus destructive in the European area, in beets in stores at Philadelphia, Pennsylvania.

ORIENTAL FRUIT FLY (Dacus dorsalis (Hend.)) three times in baggage and once in mail at Honolulu, Hawaii.

A COSSID (Dyspessa ulula (Bkh.)) in baggage at New York, New York.

A PYRAUSTID (Evergestis forficalis (L.)), a pest of crucifers in Europe and parts of Asia, in stores once each at San Juan, Puerto Rico, New York, New York, and Mobile, Alabama.

PINK BOLLWORM (Pectinophora gossypiella (Saund.)) twice in baggage at Miami, Florida.

PYRAUSTIDS (Piletocera spp.), species of unknown importance, one on taro (Colocasia esculenta) and one on ginger root (Zingiber officinale) on cargo from Fiji at San Francisco, California, 2 times, and at Seattle, Washington, one time.

EUROPEAN CHERRY FRUIT FLY (Rhagoletis cerasi (L.)) in baggage 2 times at New York, New York.

A STENOMID (Stenoma catenifer Wlsm.), an avocado seed moth of Mexico, Central America and many South American countries, twice in baggage: Once each at Miami, Florida, and El Paso, Texas.

KHAPRA BEETLE (Trogoderma granarium Everts) 3 times in stores and 4 times in cargoes: At New York, New York, 5 times; Philadelphia, Pennsylvania, one time; and Wilmington, North Carolina, one time.

GOLDEN NEMATODE (Heterodera rostochiensis Woll.) 7 times: Baltimore, Maryland, 2 times in airplanes' baggage; San Pedro, California, 2 times in airplanes' baggage; New York, New York, 2 times in airplanes' baggage; and at Detroit, Michigan, one time in airplane's baggage.

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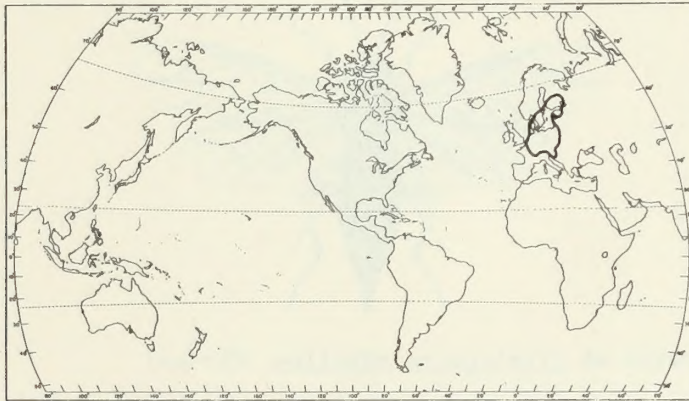
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INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

SMALL SPRUCE SAWFLY (Pristiphora abietina (Christ))

Economic Importance: This tenthredinid is an important pest of spruce in areas of northern and central Europe. Outbreaks have been reported in the Netherlands, Denmark, Germany, Poland, Czechoslovakia and Switzerland. Damaging infestations may last for several years. The pest caused considerable damage to Norway spruce in south Jutland, Denmark, between 1940 and 1950, and further controls were needed in 1955, 1956. Great losses were reported to spruce near Freiberg, Germany, in 1950; apparently the result of increased populations when favorable dry soil conditions facilitated the pupation of larvae. In Switzerland, it was confirmed that infestations begin in young plantations and then spread to older trees if the soil is favorable for pupation. The deformations of the crowns of spruce caused by infestation may result in the growth of the trunk being reduced by about 70 percent; however, it was found that few of the trees are killed even if attacked year after year and, when the outbreak ends, the crowns recover in a few years. Spruce grown in mixed stands with beech were protected in that the ground cover was rendered unfavorable for the cocoons of the sawfly.

Distribution: Recorded in Austria, Belgium, Czechoslovakia, Denmark, Estonia SSR, Finland, France, Germany, Netherlands, Poland, Sweden, Switzerland and Yugoslavia (Sarajero).



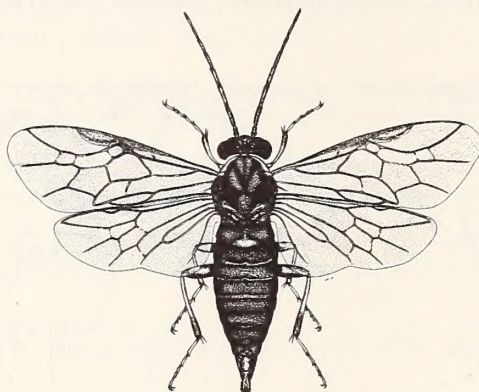
General Distribution of Pristiphora abietina (Christ)

Hosts: Engelmann spruce, Norway spruce, Sitka spruce, blue spruce and Serbian spruce.

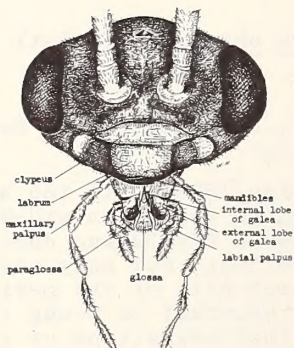
Life History and Habits: The biology, as studied during 1938-40 in the area known then as East Prussia, is as follows: In 1939, adults began to emerge in mid-May and continued for three weeks, and oviposition was in progress between May 24 and June 25. Up to 14 eggs were laid in the needles on shoots about an inch long, but only one per needle. Most eggs were laid on younger spruces during the first half of the period, and on older spruces during the second half. Eggs were unusually abundant on young trees, despite the small numbers of cocoons found beneath them, so that migrations of the adults must be assumed. Because of the long oviposition period, all stages of development, egg to full-fed larvae, occur together. Larval development appeared to be most rapid on older spruces, but there was considerable variation. Larvae were most numerous June 5-14.

Earlier studies conducted in Switzerland indicate the following additional information. In the Swiss plateau, adults appear in May or early June, the males usually a few days before the females. In the laboratory, females laid 80-100 eggs each. For oviposition, the spruce shoot must be free of bark scales, but the individual needles of the young shoot must still form a compact whole. The egg is laid in a slit cut in a needle well protected in the May shoot. Larvae hatch in 3-5 days and are ready to spin cocoons 12-20 days later. If the oviposition period has been prolonged, however, larvae may be found on trees up to 5 weeks. The male larvae have 4 instars and the females 5. Cocoons are spun in the ground litter or in the surface layer of soil, and are most abundant under moss or in places with humus, while only few occur in litter from deciduous trees or under brambles. Pupation takes place about 2 weeks prior to adult emergence in the spring.

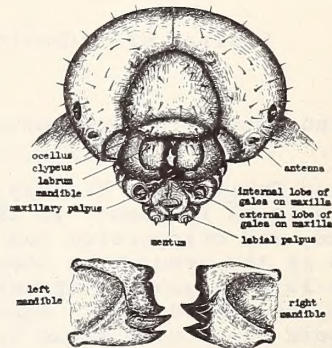
Description: ADULT - Length of male 4.5-5 mm. or about 1/4 of an inch; female 5-6 mm. Female mostly black, with area around mouth, pronotum, tegulae, and sides and apex of abdomen yellow. Male mostly dark yellow, with spot on frons, posterior surface of head, mesonotum, metanotum and most of dorsum of abdomen black. Legs the same in both sexes; mostly yellow, with dark brown shading at bases of all coxae, at apices of middle and hind femora, and tibiae and on hind tarsi. Sheath of the saw, ventral view, not notched at the tip. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies. Description mostly furnished by Dr. B. D. Burks). CEIR 13(4):1-25-63.



Female of Pristiphora abietina (Christ)



Head of Female



Head of Larva

Major references: 1. Nageli, W. 1936. Mitt. Schweiz. Anst. Forstl. Versuchsw. 19(2):213-381. 2. Niklas, O. F. 1943. Z. Angew. Ent. 30(2):224-251.

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